REMARKS

Favorable consideration and allowance are requested for claims 1, 2, 7-9, and 14-19 in view of the following remarks.

Status of the Application

Claims 1, 2, 7-9, and 14-19 are pending in this application. Claims 3-6 and 11 were previously cancelled. Claim 1 was rejected under 35 U.S.C. § 103(a) as being unpatentable over "An End-to-End Probing Based Application Control Scheme for Multimedia Applications", 2001 IEEE International Conference on Multimedia, pages 872-875, to Qiu *et al.* (the "Qiu publication") in view of U.S. Patent 6,914,900 B1 to Komatsu *et al.* (the "Komatsu patent"). Claim 2 was rejected under 35 U.S.C. § 103(a) as being unpatentable over the Qiu publication, in view of the Komatsu patent, Cisco VOIP Call Admission Control, August 2001, pages 1-26 to Odom (the "Odom publication"), and U.S. Patent Publication No. 2006/0034188 to Oran *et al.* (the "Oran publication"). Claims 7, 9, and 10 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the Qiu publication, and Komatsu patent and further in view of the Odom publication. Claims 8 and 14 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the Qiu publication, the Komatsu patent, and the Odom publication, and further in view of the Oran publication. Claim 12 was rejected under 35 U.S.C. § 103(a) as being unpatentable over the Qiu publication, in view of the Komatsu patent, the Odom publication, and the Oran publication, and further in view of the U.S. Patent Publication 2003/0165122 to Westphal *et al.* (the "Westphal publication"). Claim

13 was rejected under 35 U.S.C. § 103(a) as being unpatentable over the Qiu publication, in view of the Komatsu patent, the Odom publication, and the Oran publication, and further in view of the Westphal publication. Claims 10, 12, and 13 have been cancelled by way of the present amendment. Claims 1, 2, 7-9 and 14 been amended. Claims 15-19 have been added.

Rejections under 35 U.S.C. § 103(a)

According to the outstanding Office Action, the subject matter of independent claim 1 is rendered obvious by the combination of the Qiu publication and the Komatsu patent. In response, Applicants respectfully submit that the Qiu publication and the Komatsu patent, either alone or in combination fail to disclose or suggest the subject matter of this claim.

In particular, claim 1 recites, in part, "determining a packet loss rate of previous calls to a local area network," and "deciding, based on [the] packet loss rate of previous calls, whether to determine a current packet loss rate by sending a burst of trial packets from a first node in a local area network to the local area network for which the packet loss rate of previous calls was determined . . . ." In contrast, the Qiu publication relies entirely on probing. It does not use packet loss rates of previous calls at all. In particular, the *"Probing and Test"* module sends periodic probes to a receiver and collects measurement data. In the Qiu publication, the solution to creating too much network traffic by probing is to use very small probing packets, these being 40 bytes. This is discussed on page 873 in the passage just below Figure 1.

The Qiu publication indicates that the problem it is setting out to solve occurs because packet loss level cannot be used satisfactorily. The problem that the Qiu publication is directed to is that of lightly congested networks, not heavily congested networks such as those suffering a focused overload, which is the subject matter the present invention is concerned with. This is discussed in the Qiu in the second paragraph on page 872 as follows:

> Through lots of probing experiments, we find when the network is heavily congested, the parameter of probing packet loss rate itself is enough to be used as the admission criterion; *however, in the case of light congestion or no congestion, packet loss ratio cannot reflect network load state very well. Fortunately, parameters of delay and delay jitter are sensitive to the network state*. This is because when the network resource is near to be used up, the delay and delay jitter will increase largely. But, in the meanwhile, packet loss level may remain at a low level that cannot be estimated correctly in a short period of time. Thus, the estimation of error based on loss rate is difficult to control within a satisfied level."

Qiu publication at 872, col. 2 (emphasis added).

The Qiu publication discloses that, in certain circumstances, one might make a decision on whether to send additional probing packets rather than just the regular periodic ones. This is discussed on page 873 in the last paragraph of Section 2. However, the probing the Qiu publication is primarily directed to is packet delay and the decision on whether to send additional probing packets is based on the *current delay*. It might be interpreted against historic delays by using a parameter derived from a threshold value for packet losses but the decision is quite clearly made in the light of the current delay. This is set out on page 873 in the opening passages of "4. Admission Control Algorithm", for example:

> Our admission control algorithm is designed to *make the network in good condition by delay shape parameter* and increase the utilization as high as possible.
>
> There are two important thresholds defined bellow [sic]:
>
> delay_shape_high = α x delay_shape_thres (2)
>
> and
>
> delay_shape_low = ß x delay_shape_high, (3)
>
> where α is balancing parameters adjusting between the resource utilization and the quality of service, ß represents the trade-off between making a quick decision and drawing a correct one. *When the current delay_shape is* higher than the delay_shape_high, we reject the new flow immediately. If it is higher than the delay_shape_low but lower than the delay_shape_high, we request the Probing and Test module to do a further test for making admission decision."

Qiu publication at 873, col. 2 (emphases added).

The Komatsu patent is directed to routing in a traditional manner, entirely by telephone exchanges. Although it might be using an IP network as its trunk network, all that is happening is that the traditional trunk connection has been replaced. The exchanges in the Komatsu patent function much as exchanges in a traditional network would function and control the whole call set up procedure. Any investigation of packet loss is only in relation to the IP network sitting between the two exchanges. The local networks are traditional, each telephone 10, 60 being connected to an STM switch 21, 51. Indeed, the only packets transmitted at all in the Komatsu patent are between the two packetizing units 24, 54 in the exchanges 20, 60.

There are two voice evaluation methods disclosed in Komatsu, both controlled entirely by and in the exchanges, as in a traditional exchange. If the

result of the evaluation is poor, then the call is still established between exactly the same pair of telephones but using a different trunk connection between the exchanges.

In the first voice evaluation method, described in the last section of column 4 in the Komatsu patent, a central controller 22 in an exchange 20 instructs a packetizing unit 24 in the exchange 20 to send a single test packet 100 to a packetizing unit 54 in the receiving exchange 60. The packetizing unit 54 on the receiving side responds by sending back an ACK packet 200. Voice quality is assessed on the time taken for the ACK packet 200 to be received at the sending exchange 20.

In the second voice evaluation method, described at the top of column 5, rather than sending the single test packet 100 and waiting for an ACK packet 200, the central controller 22 of the sending exchange 20 uses historic packet loss count from earlier calls through the trunk connection. In this arrangement, there is no test packet 100 at all. If the historic packet loss count is poor, the central controller 22 will still establish the call between the same two telephones but it will use a different trunk connection.

The Komatsu patent is not directed to local area networks but uses traditional signaling to set up a call. Further, the Komatsu patent is directed to routing rather than call admission. It uses historic call data but only to evaluate a network between the exchanges. If it detects a problem, it simply finds another route to the same end destination, bypassing the packet-based part of a

connection and using an ATM or STM network instead. The local end of a connection is only shown in Komatsu as a direct link from a telephone 10, 60 to an exchange 20, 60 and is not discussed. If there were a local distribution network involved, it can only rely entirely on traditional signaling since the local element in Komatsu is not packet-based at all and sits outside the packetizing units 24, 54.

For at least these reasons, Applicants respectfully submit that the combination of the Qiu publication and the Komatsu patent does not disclose or suggest the subject matter of claim 1. As none of the other cited references disclose or suggest the subject matter of claim 1 missing from the Qiu publication and the Komatsu patent, Applicants submit that the remaining pending claims are also patentable over the cited references.

* * * * *

If there are any questions regarding this response or the application in general, a telephone call to the undersigned would be appreciated since this should expedite the prosecution of the application for all concerned.

If necessary to effect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to effect a timely response, and please charge any deficiency in fees or credit any overpayments to Deposit Account No. 05-1323 (Docket # 038665.56183US).

Respectfully submitted,

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